(Complementary MOS), BiMOS (Bipolar MOS), BiCMOS (Bipolar CMOS), ECL (Emitter Coupled Logic), TTL (Transistor-Transistor Logic), etc., using for example ASIC (Application Specific IC (Integrated Circuit)) components, FPGA (Field-programmable Gate Arrays) components, CPLD (Complex Programmable Logic Device) components or DSP (Digital Signal Processor) components. A device/apparatus may be represented by a semiconductor chip, a chipset, or a (hardware) module comprising such chip or chipset; this, however, does not exclude the possibility that a functionality of a device/apparatus or module, instead of being hardware implemented, be implemented as software in a (software) module such as a computer program or a computer program product comprising executable software code portions for execution/being run on a processor. A device may be regarded as a device/apparatus or as an assembly of more than one device/apparatus, whether functionally in cooperation with each other or functionally independently of each other but in a same device housing, for example.

[0100] Apparatuses and/or means or parts thereof can be implemented as individual devices, but this does not exclude that they may be implemented in a distributed fashion throughout the system, as long as the functionality of the device is preserved. Such and similar principles are to be considered as known to a skilled person.

[0101] Software in the sense of the present description comprises software code as such comprising code means or portions or a computer program or a computer program product for performing the respective functions, as well as software (or a computer program or a computer program product) embodied on a tangible medium such as a computer-readable (storage) medium having stored thereon a respective data structure or code means/portions or embodied in a signal or in a chip, potentially during processing thereof.

[0102] The present invention also covers any conceivable combination of method steps and operations described above, and any conceivable combination of nodes, apparatuses, modules or elements described above, as long as the above-described concepts of methodology and structural arrangement are applicable.

[0103] In view of the above, there are provided measures for a failover functionality for a client-related security association. Such measures exemplarily comprise providing a failover functionality at a proxy function and/or facilitating provision of a failover functionality at a servicing call state control function, wherein the respective failover functionality relates to a first proxy function, the serving function is for servicing the first proxy function and a second proxy function, the first proxy function has a security association with a client, and the first proxy function and the second proxy function are reachable with the same network address.

[0104] The measures according to exemplary embodiments of the present invention may be applied for any kind of network environment, such as for example for fixed communication systems e.g. in accordance with any related IEEE/IETF standard and/or mobile communication systems e.g. in accordance with any related standards of 3GPP and/or 3GPP2, and so on, e.g. UMTS standards and/or HSPA standards and/or LTE standards (including LTE-Advanced and its evolutions) and/or WCDMA standards.

[0105] Even though the invention is described above with reference to the examples according to the accompanying drawings, it is to be understood that the invention is not restricted thereto. Rather, it is apparent to those skilled in the art that the present invention can be modified in many ways without departing from the scope of the inventive idea as disclosed herein.

LIST OF ACRONYMS AND ABBREVIATIONS

[0106] 3GPP Third Generation Partnership Program

[0107] AKA Authentication and Key Agreement

[0108] ATCA Advanced Telecommunications Computing Architecture

[0109] CSCF Call State Control Function

[0110] HSPA High Speed Packet Access

[0111] IEEE Institute of Electrical and Electronics Engineer

[0112] IETF Internet Engineering Task Force

[0113] IMS IP Multimedia Subsystem

[0114] IP Internet Protocol

[0115] LTE Long Term Evolution

[0116] P-CSCF Proxy-CSCF

[0117] S-CSCF Serving-CSCF

[0118] SA Security Association

[0119] SIP Session Initiation Protocol

[0120] SPI Security Parameter Index

[0121] UE User Equipment

[0122] UMTS Universal Mobile Telecommunications System

[0123] UTRAN Universal Terrestrial Radio Access Network

[0124] WCDMA Wideband Code Division Multiple Access

1. A method comprising

providing a failover functionality for a first proxy function in cooperation with a serving function configured for servicing the first proxy function and a second proxy function, wherein the first proxy function has a security association with a client, and the first proxy function and the second proxy function are reachable with the same network address,

wherein providing the failover functionality comprises

sending data of the security association or data of the security association together with data of a registration of the client from the first proxy function to the serving function upon registering or re-registering the client at the first proxy function.

2. The method according to claim **1**, wherein providing the failover functionality further comprises

receiving a registration message of the client via a load balancer entity at the first proxy function, wherein

the load balancer entity is configured for servicing the first proxy function and the second proxy function, and

the load balancer entity exhibits the same network address as the first proxy function and the second proxy function towards the client.

3. The method according to claim **1**, wherein

the security association is established on an IPSec connection between the first proxy function and the client, and/or

the security association is associated with an authentication of the client at the first proxy function on the basis of authentication and key agreement, and/or

the data of the security association or the data of the security association together with the data of a registration of the client is sent in a registration message and/or a session initiation protocol message or a header thereof.